

CLAIM AMENDMENTS

1-26 (Cancelled)

27. (Currently Amended) An apparatus for performing scattered radiation measurements ~~in fluids~~, comprising:
an emitting device for emitting radiation,
a receiving device for receiving radiation,
a window having a first side presented towards the emitting and receiving devices and a second side bounding a volume of fluid, the window having a first window portion between the emitting device and a target location, whereby through which radiation emitted from the emitting device passes towards the a target location that is spaced from the second side of the window and arrives at the target location along a first path, and the window also having a second window portion substantially coplanar with the first window portion and positioned so that radiation leaving the target location along a second path, which is at an angle of about 90° to the first path, passes through the second window portion towards the receiving device,
and wherein the emitting device comprises a radiation source and a deflection element positioned to receive radiation from said radiation source and to deflect such radiation towards the first window portion.

28. (Previously Presented) An apparatus according to claim 27, wherein the deflection element comprises a reflecting prism.

29. (Previously Presented) An apparatus according to claim 28, wherein the reflecting prism has a radiation entry surface that is configured as a nonplanar aspherical surface.

30. (Previously Presented) An apparatus according to claim 27, wherein the deflection element has a radiation entry surface for receiving radiation from the radiation source, and radiation from the radiation source passes perpendicularly through the radiation entry surface.

31. (Previously Presented) An apparatus according to claim 30, wherein the deflection element has a deflection surface that is disposed such that radiation from the radiation source is reflected in the interior of the deflection element.

32. (Previously Presented) An apparatus according to claim 30, wherein the radiation entry surface has an optical axis and the radiation entry surface is curved such that radiation from the radiation source propagates in the deflection element parallel to said optical axis.

33. (Previously Presented) An apparatus according to claim 30, wherein the deflection element has a deflection surface at which radiation from the radiation source is incident at an angle such as to be totally reflected.

34. (Previously Presented) An apparatus according to claim 30, wherein the radiation entry surface is spherically curved.

35. (Previously Presented) An apparatus according to claim 27, wherein radiation emitted from the emitting device passes to the first window portion along a third path and passes along the first path, radiation that leaves the target location along the second path passes from the second window portion to the receiving device along a fourth path, and the first, second, third, and fourth paths are substantially coplanar.

36. (Previously Presented) An apparatus according to claim 27, wherein the deflection element has a curved radiation entry surface and a flat surface through which radiation passes from the emitting device towards the target location.

37. (Previously Presented) An apparatus according to claim 27, wherein the deflection element is in direct contact with the first window portion.

38. (Previously Presented) An apparatus according to claim 27, wherein the deflection element and the first window portion are integrally connected together.

39. (Previously Presented) An apparatus according to claim 27, wherein the receiving device comprises a radiation detector and an optical deflection element positioned to receive radiation that passes from the target location along the second path and passes through the second window portion, and to deflect such radiation towards the radiation detector.

40. (Previously Presented) An apparatus according to claim 39, wherein the target location and the deflection elements are disposed in a common plane and the radiation source and radiation detector are not in said common plane.

41. (Previously Presented) An apparatus according to claim 39, wherein the deflection elements, the radiation source and the radiation detector are disposed in a common plane.

42. (Currently Amended) An apparatus for performing scattered radiation measurements ~~in fluids~~, comprising:
an emitting device for emitting radiation,
a receiving device for receiving radiation,
a window having a first side presented towards the emitting and receiving devices and a second side bounding a volume of fluid, the window having a first window portion between the emitting device and through which radiation emitted from the emitting device passes towards a target location, whereby radiation emitted from the emitting device that is spaced from the second side of the window and arrives at the target location along a first path, and the window also having a second window portion substantially coplanar with the first window portion and positioned so that radiation leaving the target location along a second path, which is at an angle of about 90° to the first path,

passes through the second window portion towards the receiving device,

and wherein the receiving device comprises a radiation detector and an optical deflection element positioned to receive radiation that passes from the target location along the second path and passes through the second window portion, and to deflect such radiation towards the radiation detector.

43. (Previously Presented) An apparatus according to claim 42, wherein the deflection element comprises a reflecting prism.

44. (Currently Amended) An apparatus according to claim 43, wherein the reflecting prism has a radiation ~~entry~~ exit surface that is configured as a nonplanar aspherical surface.

45. (Currently Amended) An apparatus according to claim 42, wherein the deflection element has a radiation ~~entry~~ exit surface for ~~receiving passing~~ radiation ~~from to~~ the radiation ~~source~~ detector, and radiation from the ~~radiation-source~~ target location passes ~~through~~ perpendicularly through the radiation ~~entry~~ exit surface.

46. (Currently Amended) An apparatus according to claim 45, wherein the deflection element has a deflection surface that is disposed such that radiation from the ~~radiation-source~~ target location is reflected in the interior of the deflection element.

47. (Currently Amended) An apparatus according to claim 45, wherein the radiation ~~entry~~ exit surface has an optical axis and the radiation ~~entry~~ exit surface is curved such that radiation from the ~~radiation-source~~ target location propagates ~~is in~~ the deflection element parallel to said optical axis.

48. (Currently Amended) An apparatus according to claim 45, wherein the deflection element has a deflection surface at which

radiation from the ~~radiation source~~ target location is incident at an angle such as to be totally reflected.

49. (Currently Amended) An apparatus according to claim 45, wherein the radiation ~~entry~~ exit surface is spherically curved.

50. (Previously Presented) An apparatus according to claim 42, wherein radiation emitted from the emitting device passes to the first window portion along a third path and passes along the first path, radiation that leaves the target location along the second path passes from the second window portion to the receiving device along a fourth path, and the first, second, third, and fourth paths are substantially coplanar.

51. (Currently Amended) An apparatus according to claim 42, wherein the deflection element has a curved radiation ~~entry~~ exit surface and a flat surface through which radiation passes from the ~~emitting device~~ target location towards the ~~target location~~ receiving device.

52. (Currently Amended) An apparatus according to claim 42, wherein the deflection element is in direct contact with the ~~first~~ second window portion.

53. (Currently Amended) An apparatus according to claim 42, wherein the deflection element and the ~~first~~ second window portion are integrally connected together.

54. (Currently Amended) An apparatus according to claim 42, wherein the ~~receiving~~ emitting device comprises a radiation ~~detector~~ source and an optical deflection element positioned to receive radiation ~~that passes~~ from the ~~target location~~ radiation source and to deflect such radiation towards the ~~radiation detector~~ first window portion.

55. (Previously Presented) An apparatus according to claim 54, wherein the target location and the deflection elements are disposed in a common plane and the radiation source and radiation detector are not in said common plane.

56. (Previously Presented) An apparatus according to claim 54, wherein the deflection elements, the radiation source and the radiation detector are disposed in a common plane.